

REMARKS

Claims 1-15 are pending. Claims 1-3, 7, 9 and 11 are currently amended.

Claims 1-3 are currently amended to further limit the number of monomers used to synthesize the copolymers of the instant invention.

Claim 11 is currently amended to clarify what type of personal care composition is claimed. This amendment finds support in paragraphs [0203] and [0287] of US 2005-0265948, the pre-grant publication of the instant invention.

Claims 1, 7 and 9 are amended to clarify what type of copolymer is claimed. This amendment finds support in paragraph [0317] of US 2005-0265948, the pre-grant publication of the instant invention.

No new matter is added.

Claims 1-15 are presented for reconsideration.

Claim Rejection – 35 USC 112 Second Paragraph

Claims 1, 7 and 9 are rejected under 35 USC 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per a suggestion by the Examiner, claim 1 is currently amended to limit the type of polymer to the exact type disclosed in the specification. Accordingly, claim 1, 7 and 9 are amended to insert the term “cationic liquid dispersion” before the word copolymer. This amendment finds support in paragraph [0317] of US 2005-0265948, the pre-grant publication of the instant invention.

The Applicants therefore aver that the 35 USC 112 second paragraph rejection is addressed and overcome.

Claim Rejections – 35 USC 102(b)

Claims 1-11 and 13-15 remain rejected under 35 USC 102(b) as being anticipated by Galleguillos et al. (US 6,361,768).

US 6,361,768 teaches a hydrophilic ampholytic polymer or copolymer formed by copolymerization of: a) 0.05 to 20 mole percent of at least one anionic monomer having at least one carboxy-functional group, b) 10 to 45 mole percent of at least one cationic monomer having at least one amino-functional group, c) a sufficient quantity (in an amount of about 35 to about 95 mole percent) of at least one non-ionic hydrophilic monomer to provide a glass transition temperature of above about 50.degree. C., d) 0 to 10 mole percent of a fourth hydrophobic monomer, and e) 0 to 1.5 mole percent of a cross-linking monomer (column 4, lines 35-49). According to this disclosure, at least three monomer components must present in the polymer or copolymer with a fourth component, component d, being optional. Instant claims 1, 2 and 3 are currently amended to include the transitional phrase "consists essentially of". This amendment limits the scope of the claimed copolymer exclusively to those copolymers derived from a monomer of formula (I) and a monomer of formula (II). Therefore, this amendment excludes the presence of additional monomers.

Claims 1-2, 5-7, and 10-12 are rejected under 35 USC 102(b) as being anticipated by Mita et al. (US 5,278,269).

US 5,278,269 teaches a film-forming resin which is a copolymer comprising monomers: (a) 30 to 80% by weight of a (meth)acrylamide monomer represented by the following formula (I); (b) 5 to 45% by weight of a (meth)acrylate monomer represented by the following formula (II); (c) 2 to 30% by weight of a (meth)acrylate monomer and/or a (meth)acrylamide monomer having a tertiary amino group represented by the following formula (III); and, (d) 0 to 30% by weight of a (meth)acrylate monomer represented by the following formula (IV). According to this disclosure, at least three monomer components must present in the polymer or copolymer with a fourth component, component d, being optional. Instant claims 1, 2 and 3 are currently amended to include the transitional phrase "consists essentially of". This amendment limits the scope of the claimed copolymer exclusively to those copolymers derived from a monomer of formula (I) and a monomer of formula (II). Therefore, this amendment excludes the presence of additional monomers.

The Applicants therefore aver that the 35 USC 102(b) rejections are addressed and overcome.

Claim Rejections – 35 USC 103(a)

Claims 1-15 are rejected under 35 USC 103(a) as being unpatentable over Galleguillos et al (US 6,361,768) and in view of Lentini et al. (US 5,665,368).

Lentini teaches water-in-oil emulsions useful as sprayable compositions for topical application to human skin or hair. These water-in-oil emulsions can contain from about 20-80 percent oil content.

Galleguillos et al. teaches a hydrophilic ampholytic polymer or copolymer formed by copolymerization of: a) 0.05 to 20 mole percent of at least one anionic monomer having at least one carboxy-functional group, b) 10 to 45 mole percent of at least one cationic monomer having at least one amino-functional group, c) a sufficient quantity (in an amount of about 35 to about 95 mole percent) of at least one non-ionic hydrophilic monomer to provide a glass transition temperature of above about 50.degree. C., d) 0 to 10 mole percent of a fourth hydrophobic monomer, and e) 0 to 1.5 mole percent of a cross-linking monomer (column 4, lines 35-49).

According to the disclosure of Galleguillos, at least three monomer components must present in the polymer or copolymer with a fourth component, component d, being optional. Furthermore, Galleguillos et al. actually teach away from the instant cationic liquid dispersion copolymers of the instant invention. Galleguillos et al. teaches the following deficiencies concerning cationic polymers (column 1, lines 22-31):

“Unfortunately, however, the aforementioned conventional water-soluble polymers suffer from many serious deficiencies or limitations in actual use.” (column 1, lines 37-39).

Galleguillos et al further mention concerning cationic polymers:

“Commercial hair care and personal care formulations, in particular, often contain cationic and amphoteric surfactants, as well as salts, other polymers, non-aqueous solvents, oils, colorants, peroxides, acids, and bases. Hair conditioning compositions, for example, frequently include cationic surfactants as conditioning agents for improving conditioning and detangling of the hair. See, for example, U.S. Pat. No. 5,100,657 which discloses quarternary ammonium-containing cationic surfactants, such as dialkyldimethylammonium chlorides and salts of fatty amines. The interaction of the thickening polymer with these formulation ingredients results in substantial

viscosity reduction, formation of insoluble complexes or produce "stringy" or viscous rheology."
(column 1, lines 50-63)

Based on the disclosure of Galleguillos et al., one of ordinary skill in the art would not be motivated to synthesize the instant cationic liquid dispersion copolymers and evaluate the said copolymers in personal care formulations. Therefore, personal care compositions or formulations derived from the cationic liquid dispersion copolymers of the instant invention are not obvious.

The combination of US 6,361,768 in view of US 5,665,368 would teach away from the instant invention. The limitations of amended claim 1 to copolymers formed from two monomers are present excludes additional monomers. The combination of these two references would teach terpolymers in a water-in-oil composition containing from about 20-80 per cent oil.

The elements of the instant amended claims can not be derived from US 6,361,768 in view of US 5,665,368, either alone or collectively; hence the limitations are not met.

The Applicants therefore aver that the 35 USC 103(a) rejection is addressed and overcome.

The Examiner is kindly requested to reconsider and to withdraw the present rejections.

Applicants submit that the present claims are in condition for allowance and respectfully request that they be found allowable.

Respectfully submitted,

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